

AMENDMENTS TO THE CLAIMS

The current listing of the claims replaces all previous amendments and listings of the claims.

1. (Currently Amended) A method for the decontamination of oily cuttings, coming from the ~~drilling of~~ drilling oil wells, and the ~~contemporaneous~~ recovery of the ~~an~~ oily component, comprising the following steps:

[[a.]] mixing [[of]] said cuttings with CO₂ in the ~~a~~ liquid state at a pressure ~~value~~ ranging from 45 to 80 ~~70~~ bar and a temperature corresponding to the ~~a~~ saturation value, with ~~dissolution of the to dissolve an~~ oily fraction of the ~~cutting~~ cuttings;

~~[[b.]] removal of the liquid phase (solution) removing a liquid phase including the CO₂ and the oily fraction from the solid phase (cutting) cuttings;~~

~~[[c.]] expansion and heating of the solution leaving step (b), with the recovery of liquid phase to recover the oily fraction discharged, and to recover the CO₂ in vapour a vapor phase;~~

~~[[d.]] cooling and condensation of the process CO₂ and its recycling to step (a), after possible under-cooling in the vapor phase for use in a subsequent mixing with other cuttings.~~

2. (Currently Amended) The method according to claim 1, wherein the mixing of the cuttings takes place at a pressure ranging from 45 to 70 bar, whereas the separation of the oily fraction is effected ~~occurs~~ at a pressure ranging from 30 to 60 bar.

3. (Currently Amended) The method according to ~~claims 1 and 2~~ claim 1 or claim 2, wherein the mixing step of the cuttings and the separation step of the oily fraction take place at a temperature close to the saturation value of the liquid phase.

4. (Currently Amended) The method according to ~~any of the claims from 1 to 3~~ claim 1, wherein the cooling and condensation of the CO₂ in the vapor phase occurs after under-cooling ~~degree~~ of the liquid CO₂ ~~ranges~~ at a temperature ranging from 0 to 5° C.

5. (Currently Amended) The method according to ~~any of the claims from 1 to 4~~ ~~claim 1~~, wherein the liquid CO₂ is fed to ~~the an~~ extraction vessel in a ratio from 2 to 20 times by weight with respect to the cuttings during the mixing of the cuttings with CO₂.

6. (Currently Amended) The method according to ~~any of the claims from 1 to 5~~ ~~claim 1~~, wherein ~~the moving of the liquid CO₂ is effected moved~~ using a volumetric pump situated between ~~the an~~ accumulation tank and ~~the an~~ extractor vessel during removal of the liquid phase from the cuttings.

7. (Currently Amended) The method according to ~~any of the previous claims~~ claim 1, wherein ~~the oily phase extracted fraction~~ is separated by the use of one or more separators on-line.

8. (Currently Amended) The method according to claim 7, wherein at least one of the separation section consists of a single separator with ~~separators is configured to provide a cyclone effect~~.

9. (Currently Amended) The method according to claim 7, wherein ~~the separation section consists of the at least one separator comprises two separators, the first with and one of the separators is configured to remove the CO₂ vapor by an inertial impact, the second with and another one of the separators is configured to remove the CO₂ vapor by a cyclone effect~~.

10. (Currently Amended) The method according to ~~claims 7-9~~ claim 7, wherein a filter for separating the entrained configured to separate liquid[[],] from the CO₂ vapor is situated down-stream of at least one of the separation section separators.